

plan, and which they have sanctioned by their offered subscriptions towards a fund I propose to raise for the purpose. I would again urge them, through your Journal, and I trust you will aid me, to come forward in this cause. I think they should be the first to found such a school, not only because they are more interested than any other men in improving the workman and his work,—they employing so many,—but also because architecture is the first and foundation of all the other arts, and should take precedence of them all.

We should first make the workman able to finish in a masterly and workmanlike manner a fine church, and the houses we live in, and the monuments we leave to our illustrious men,—all works of architecture, and perhaps the only ones that can live; and then think of silks and velvets, of cups and saucers, of fenders and fire-irons: these would, indeed, soon follow: they must, then, be improved.

I have endeavoured to induce, and have partially succeeded in inducing, some of the higher members of the profession to form a committee to carry out and superintend my plan; and if I am fortunate enough to succeed, then will, I am confident from experience, be no difficulty in procuring funds for the school-house, casts of mediæval sculpture, &c. By myself, I fear, I can do but little. If, Sir, the architects do not take up this matter, they will find that some other society of men will; and then, instead of the new, or rather the first, school of art established to improve art-workmanship taking the lead as an architectural school, and thus infusing a high spirit into art-workmanship, the architect will find himself led by the upholsterer, by the crockery-man, and the ironmonger. Instead of the skill learned in the church and the dwelling-house descending to chairs and tables and fire-irons, he will find the carving on his arm-chair fastened to the church door, the ornament on his fender transferred to the lectern.

The object, then, of such a school as this should be to show to the workman the very best, and to teach him the highest, and thus to put it in his power to do all; and architecture being, as I have said, the first and foundation of all arts, the architect should take the lead, and be the teacher of the workman, as he was in the old time.

C. B. ALLEN.

RAILWAY JOTTINGS.

IN an article on the wonders of the railway system, the *Times* says:—"We know not what artifices of language could add force to a simple statement which appeared in our impression of Saturday last. The system of railway communication in these islands has advanced to such a point that every day the locomotive engine passes over a distance nearly four-and-a-half times the circumference of the globe. The following brief summary will perhaps serve as the best preface to the few remarks we propose to offer on the present position of our railway system:—Number of engines working on the railways in 1850, 2,426: quantity of coke consumed by them within the year (tons), 627,526; quantity of coal consumed, 896,466; total distance run within the year (miles), 40,161,950; average distance run per day (miles), 110,333. In the year 1850 there were in all 6,464 miles of railway under traffic. On the 1st of January, 1849, when as yet only 5,079 miles of iron road had been opened, there had been of capital expended upon their construction 205,160,000*l.*, and at the same period the total receipts for the preceding six months amounted to 5,744,265*l.*, or 5·6 per cent. on capital expended. Allowing 40 per cent. for working expenses, the division of these receipts will stand at 2·2 for expenses, and 3·4 for profits.—The works of the Great Northern in the neighbourhood of Grantham are rapidly progressing. The Peascliffe tunnel is almost finished, and the tip from the Spittlegate-hill cutting has nearly approached the crossing of the Great North-road below Little Gonerby. The station at Spittlegate Church is being covered in as far as the outside buildings, waiting-rooms, &c., are concerned.—The *Morning Chronicle* gives an account of the first public trial of Captain Addison's day

and night signal, which was made on the North Kent line. "The design," it says, "is intelligible enough. Instead of having but one guard, there are here two,—one in the immediate vicinity of the engine; the other, as usual, behind. The signal which gives the warning to these functionaries is so situated and attached to every carriage that it may be turned on by any person of ordinary sense at a moment's notice. It is placed immediately outside the carriage, with which it is connected at one end by a spring, at the other by a latch, restraining its tendency to shoot out; and it is the removal of this latch, impossible except by the manipulation of a passenger, which permits the notice of danger to fly out and apprise the proper functionary that some accident has happened, or is about to happen [or is feared or fancied or made-believe to be about to happen, or, it may be, rather, in most cases, to apprise the proper functionary that some urchin inside, "of ordinary sense," had found out the way to "lift the latch," or "pull the trigger," and set off the "stunning" fire-work], which will render the immediate stoppage of the train desirable. The red placard was visible at once by daylight to the vigilant observer; but at night, on the return, when almost a positive illumination was shown, there was still less doubt about the utility of the design. The pulling of a trigger, differing in no particular from that of a gun, let off a percussion cap, which shrouded a mass of combustible matter; and the result was a bright and brilliant flame, visible for miles, and enduring for at least five minutes." Can it be possible that it is for a moment contemplated to put it thus in the power of every nervous old woman of either sex, of every mischievous or curious urchin, and of every tipsy fast gent up to a lark, so to frighten a whole train full of passengers and arrest their progress at will? It surely cannot.

THE SURVEY OF IRELAND AND SCOTLAND.

ALLOW me to refer to an article which appeared in your number published on the 30th ult., under the above head, signed "John S. Sloane."

The writer commences his philippic as follows:—"At a time when so much is being said about the survey of Scotland, it may not be amiss to state a few facts touching the Ordnance survey of Ireland, which, in a humble way, may serve to show the people of Scotland for what they are so eagerly seeking."

Now, let us see what are his facts: for the sake of brevity I will refer to that respecting the survey of the city of Dublin, which is a fair specimen of all the others. It is as follows:—"The much-boasted survey of Dublin, plotted to a scale of 60 inches to the mile, one would think ought to be correct from the number of years they have been engaged at it (since 1837), and the quantity of red coats who have innumerable times paraded the streets, apparently revising it; and yet there is not a street without errors, not the less annoying because in some cases trivial."

There were two maps drawn of the survey of the city of Dublin, one on the general scale of 6 inches to the mile, the other upon the scale adopted for all the large towns, namely, 5 feet to the mile: both of these maps were completed, and in the hands of the engravers, in 1840. Since that time they have been published, and I believe every sheet bears the date of publication upon it. There is an immense demand for these maps, and would it not be absurd to expect that, so long as the demand continues, the Ordnance would discharge their engravers and cease to supply them, when it is, in fact, a part of the Ordnance design, that the profits arising from the sale of the maps shall ultimately cover the expense of the survey? Indeed, it may even turn out to be a paying speculation, for I understand it is contemplated to publish the maps upon different scales, reduced from that of six inches to the mile. I have stated that every sheet bears the date of publication; and so long as the Ordnance continue to issue series after series of new impressions, and, as they will have them accu-

rate up to the date of issue, they must necessarily embrace the alterations and additions that may have taken place on the ground since the preceding publication,—may we not, then, assume that the Ordnance will continue to publish their maps so long as they have a demand for them; and may we not likewise assume that not until the demand ceases will the Ordnance survey be finished?

As a city map, that of Dublin has been and is looked upon by the best judges as having attained a degree of accuracy and perfection exceeding anything of the kind in existence. As all the efforts of human genius, however, cannot produce perfection, so the Ordnance map of Dublin may have its faults and discrepancies.

The survey of the whole of Ireland—that is to say, the draft-plans—was finished in the years 1841-2; and one of the senior officers of the Royal Engineers, with his staff of assistants, civil and military, was then appointed to conduct the survey of the six northern counties of England, upon the same scale as that upon which Ireland was surveyed. The survey of Lancashire was completed in 1846, and in the following year the engraved impressions were in course of circulation. The engraved map of the whole county is now complete; and, judging from the sale it has had, it may be expected that ere long we shall have another and probably an improved impression of it.

Respecting the correctness of the Ordnance survey generally, it is in the hands of the public, and will speak for itself. I have had an extensive practical knowledge of it, both in Ireland and England, and I would not hesitate to stake my character as a surveyor upon the fact that it is at once as accurate, as complete, and as well finished as any survey can be: indeed, it is an advance in the art: neither labour nor expense has been spared upon it, and *labor omnia vincit* is true to a proverb.

It must be recollected that I am speaking of a scale the smallest area on which calculated with accuracy—that is to say, the smallest area the Ordnance profess to give upon it—is that of a township. No honest surveyor would profess to compute accurate areas of fields from it: for abstract purposes it may nevertheless be sufficiently accurate; but if private surveyors will make illegitimate uses of it, the blame must rest with them.

Respecting the district in the north of Ireland of which J. S. Sloane speaks, I am free to admit his facts, so far as they are fairly represented, and certainly that is not far. The Ordnance Survey commenced in the north, and it was not then designed to embrace all the fences and minor details, but to be a survey sufficient for the valuation of the country, and that would admit of the hills being shaded upon it—somewhat in the manner of the 2-inch map of England. When the survey of Ireland was reported finished, in 1842, a staff of surveyors was sent to the north to supply the detail that had been omitted, and from what I have been told, I believe it to have been finished long since. As to the fact that for railway purposes it was found necessary to survey the houses, there is nothing in it: assuming it to be a proof of the inaccuracy of the Ordnance survey is fallacious, for however accurate it might be, railway surveyors would be obliged to show an enlarged plan in such cases, for the sake of admitting the reference numbers being distinctly and legibly written upon the spaces they represented. W. M.

CATTLE BRIDGES.—Mr. Matthew, of Caermarthenshire, has devised a simple mode of constructing bridges to enable cattle and sheep to pass wide ditches. They consist of poles, five inches square, and then sawn from corner to corner, forming two triangular pieces. These are joined by a number of common iron butt hinges, according to their length, and have a handle at each end to open them: thus, when open, one of these forms a safe and easy foot-bridge, about fourteen inches wide, but when shut presents an angular projection, over which neither cattle nor sheep can pass; and, when shut, one rail forms a protection to the other from the effects of weather.